GRADATION FOR GSB
(As per MORT&H 400-1,Grading-II)

TEJUS CONSULTANTS

[illegible]	=	The Work of Improvements to Sanitary work in ward No. 08, Kodigehalli
[illegible]	=	BRUHAT BANGALORE MAHANAGARA PALIKE
[illegible]	=	M/s Tejus Consultants
[illegible]	=	M/S KRIDL
[illegible]	=	03.09.2019
[illegible]	=	GSB
[illegible]	=	GSB1

Date of Sampling:	03.09.2019
Date of testing:	03.09.2019
Oven Dry Wt.(gms):	10000.0

[illegible]	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
[illegible]	0	0	0.00	100.00	-
[illegible]	0	0	0.00	100.00	100.00
[illegible]	2215	2215	22.15	77.85	70-100
[illegible]	2216	4431	44.31	55.69	50-80
[illegible]	894	5325	53.25	46.75	40-65
[illegible]	1216	6541	65.41	34.59	30-50
[illegible]	1952	8493	84.93	15.07	10-15
[illegible]	840	9333	93.33	6.67	<5
[illegible]	667.0				
[illegible]	10000.0				

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[illegible] above are based on the tests carried out on the samples
[illegible] the laboratory/Site.
[illegible] the report must be reported reported within 15days from the date of testing.

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GRADATION FOR GSB
(As per MORT&H 400-1,Grading-II)

TEJUS CONSULTANTS

[illegible]	:	The Work OF Improvements to Sanitary work in ward No. 08, Kodigehalli
[illegible]	:	BRUHAT BANGALORE MAHANAGARA PALIKE
[illegible]	:	M/s Tejus Consultants
[illegible]	:	M/S KRIDL
[illegible]	:	03.09.2019
[illegible]	:	GSB
[illegible]	:	GSB1

[illegible]	At plant	Date of Sampling:	03.09.2019
		Date of testing:	03.09.2019
[illegible]	GSB	Oven Dry Wt.(gms):	10000.0

[illegible]	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
[illegible]	0	0	0.00	100.00	-
[illegible]	0	0	0.00	100.00	100.00
[illegible]	2213	2213	22.13	77.87	70-100
[illegible]	2636	4849	48.49	51.51	50-80
[illegible]	894	5743	57.43	42.57	40-65
[illegible]	1210	6953	69.53	30.47	30-50
[illegible]	1952	8905	89.05	10.95	10-15
[illegible]	825	9730	97.30	2.70	<5
[illegible]	270.0				
[illegible]	10000.0				

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[illegible] results indicated above are based on the tests carried out on the samples
[illegible] to the Laboratory/Site.
[illegible] regarding the report must be reported reported within 15days from the date of testing.

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	The Work OF Improvements to Sanitary work in ward No. 08, Kodigehalli		
	BRUHAT BANGALORE MAHANAGARA PALIKE		
	M/s Tejus Consultants		
	M/S KRIDL		
Sand Core Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
	04.09.2019		
	GSB layer.		
	200mm		
	1	2	2
	5200	5214	5232
	14000	14000	14000
	9655	9649	9650
	870	870	870
	3475	3481	3480
	1.32	1.32	1.32
	1.98	1.98	1.98
	10.20	10.30	10.20
	1.79	1.79	1.80
	1.83	1.83	1.83
	10.30%	10.30%	10.30%
	98.22	98.22	98.68
	98%	98%	98%

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The results tabulated above are based on the tests carried out on the samples received in the laboratory/Site.

In all cases regarding the report must be reported reported within 15days from the date of testing.

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	The Work OF Improvements to Sanitary work in ward No. 08, Kodigehalli		
	BRUHAT BANGALORE MAHANAGARA PALIKE		
	M/s Tejus Consultants		
	M/S KRIDL		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
	04.09.2019		
	GSB layer		
	200mm		
	1	2	2
Weight of material from hole (Ww) gms.	5200	5218	5235
Weight of cylinder before pouring (w1) gms.	14000	14000	14000
Weight of cylinder after pouring (w2) gms.	9654	9640	9651
Weight of cone (w3) gms.	870	870	870
Weight of sand (w)=(w1-w2-w3) gms.	3476	3490	3479
Bulk density of sand (γsand)	1.32	1.32	1.32
Density of material(i.e. wt. of the wet material) (γbulk) gm/cc	1.97	1.97	1.99
Water content (moisture content)	10.30	10.25	10.30
Dry density of the dry material(γ=(100γb/100+mc)gm/cc	1.79	1.79	1.80
	1.83	1.83	1.83
	10.30%	10.30%	10.30%
Compaction obtained	98.10	98.09	98.67
Compaction required	98%	98%	98%

This report shall not be reproduced, except in full, without the written approval of the laboratory.
The results indicated above are based on the tests carried out on the samples
sent to the laboratory/Site.
Any query regarding the report must be reported reported within 15days from the date of testing.

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AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

TEJUS CONSULTANTS

The Work of Improvements to Sanitary work in ward No. 08, Kodigehalli

BRUHAT BANGALORE MAHANAGARA PALIKE

M/s Tejus Consultants

	Date of Sampling	**05.09.2019**
	Date of Testing	**05.09.2019**

Description		Test No.			Spec Limit (%)
		1	2	3	
Wt. of oven dry sample passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	343.00	345.00	359.00	
Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	266.00	275.00	276.00	
Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	77.00	70.00	83.00	
Aggregate Impact Value (%)	(Wc/Wa)* 100	22.45	20.29	23.12	
Average aggregate impact value	(%)	21.95			Max - 30 %

Satisfactory / Not Satisfactory

TEJUS CONSULTANTS

Authorised Signatory

AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

TEJUS CONSULTANTS

	The Work of Improvements to Sanitary work in ward No. 08, Kodigehalli
	BRUHAT BANGALORE MAHANAGARA PALIKE
	M/s Tejus Consultants
	M/s KRIDL
	WMM
	Hot plant

Date of Sampling	**05.09.2019**
Date of Testing	**05.09.2019**

Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	361.00	346.00	365.00	
Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	285.00	267.00	281.00	
Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	76.00	79.00	84.00	
Aggregate Impact Value (%)	(Wc/Wa)* 100	21.05	22.83	23.01	
Average Aggregate impact value	(%)	22.30			Max - 30 %

Satisfactory / Not Satisfactory

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FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project	The Work of Improvements to Sanitary work in ward No. 08, Kodigehalli
Client	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	M/s Tejus Consultants
Contractor	M/S KRIDL

Type of Material	WMM	Proposed Use	WMM
Sample Location	At plant	Date of Sampling	05.09.2019
		Date of Testing	05.09.2019

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	906	98	808	58
16.0	12.5	1200	120	1080	120
12.5	10.0	500	72	428	70
10.0	6.3	500	72	428	40
Total		**3106**	**362**	**2744**	**288**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	11.65	
Elongation Index(%):	10.50	
Combined FI+EL (%)	22.15	

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FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project	The Work of Improvements to Sanitary work in ward No. 08, Kodigehalli
Client	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	M/s Tejus Consultants
Contractor	M/S KRIDL

Type of Material	WMM	Proposed Use	WMM
Sample Location	At plant	Date of Sampling	05.09.2019
		Date of Testing	05.09.2019

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	870	76	794	52
16.0	12.5	1225	112	1113	122
12.5	10.0	450	68	382	68
10.0	6.3	500	70	430	42
Total		**3045**	**326**	**2719**	**284**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.71
Elongation Index(%):	10.45
Combined FI+EL (%)	21.15

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GRADATION FOR WMM
(As per MORT&H 400-11)

Name of Work	:	The Work of Improvements to Sanitary work in ward No. 08, Kodigehalli
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	M/S KRIDL
Date of Testing	:	05.09.2019
Type of Mix	:	WMM
Sample I/D	:	WMM 1

Sample Location:	At plant	Date of Sampling:	05.09.2019
Type of material & Purpose:	WMM	Date of testing:	05.09.2019
		Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained (gm)	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	635	635	6.35	93.65	95-100
22.4	2622	3257	32.57	67.43	60-80
11.2	1782	5039	50.39	49.61	40-60
4.75	1452	6491	64.91	35.09	25-40
2.36	1362	7853	78.53	21.47	15-30
0.6	825	8678	86.78	13.22	8.0-22.0
0.075	802	9480	94.80	5.20	0-8
Pan	520				
Total	10000				

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GRADATION FOR WMM
(As per MORT&H 400-11)

Name of Work	:	The Work of Improvements to Sanitary work in ward No. 08, Kodigehalli
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	M/S KRIDL
Date of Testing	:	05.09.2019
Type of Mix	:	WMM
Sample ID	:	WMM 2

Sample Location:	At plant	**Date of Sampling:**	05.09.2019
Type of material & Purpose:	WMM	**Date of testing:**	05.09.2019
		Oven Dry Wt.(gms):	10000.0

Sieve size in mm	Weight retained (gm)	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	610	610	6.10	93.90	95-100
22.4	2563	3173	31.73	68.27	60-80
11.2	1823	4996	49.96	50.04	40-60
4.75	1520	6516	65.16	34.84	25-40
2.36	1420	7936	79.36	20.64	15-30
0.6	852	8788	87.88	12.12	8.0-22.0
0.075	800	9588	95.88	4.12	0-8
Pan	412				
Total	10000				

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	The Work of Improvements to Sanitary work in ward No. 08, Kodigehalli
	BRUHAT BANGALORE MAHANAGARA PALIKE
	M/s Tejus Consultants
	M/S KRIDL

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

Testing	**06.09.2019**		
or level	WMM I layer		
hole	250mm		
	1	**2**	**3**
material from hole (Ww) gms.	6189	6119	6212
cylinder before pouring (w1) gms.	14000	14000	14000
cylinder after pouring (w2) gms.	9720	9711	9695
in cone (w3) gms.	835	842	830
in hole (w4)=(w1-w2-w3) gms.	3445	3447	3475
of sand (γs)gm/cc	1.31	1.32	1.31
of material(i.e. wt. of the wet =(Ww/w4*(γs))gm/cc	2.35	2.34	2.34
meter reading(moisture content)	12.66	12.52	12.32
the dry material)=(100γb/100+mc)gm/cc	2.09	2.08	2.08
	2.12	2.12	2.12
	12.60%	12.60%	12.60%
Obtained	98.54	98.23	98.35
Required	98%	98%	98%

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	The Work of Improvements to Sanitary work in ward No. 08, Kodigehalli
	BRUHAT BANGALORE MAHANAGARA PALIKE
ant	M/s Tejus Consultants
tor	M/S KRIDL

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

Testing	06.09.2019
or level	WMM I layer
hole	250mm

ensity:	1	2	3
et material from hole (Ww) gms.	6215	6246	6237
and+cylinder before pouring (w1) gms.	14000	14000	14000
and+cylinder after pouring (w2) gms.	9682	9642	9698
and in cone (w3) gms.	835	842	830
and in hole (w4)=(w1-w2-w3) gms.	3483	3516	3472
ensity of sand (γs)gm/cc	1.31	1.32	1.31
ensity of material(i.e. wt. of the wet rial) (γb)=(Ww/w4*(γs))gm/cc	2.34	2.34	2.35
ure meter reading(moisture content)	12.42	12.58	12.50
ult			
Wt.of the dry material)=(100γb/100+mc)gm/cc	2.08	2.08	2.09
	2.12	2.12	2.12
	12.60%	12.60%	12.60%
Compaction Obtained	98.08	98.25	98.67
paction Required	98%	98%	98%

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